DOCUMENT RESUME

ED 229 639 CE 036 017

AUTHOR Worthington, Robert K.
TITLE The Significance of Vocational-Technical Education in World-Wide Development.
PUB DATE 26 Apr 83
NOTE 17p.; Presented at the International Conference on Establishing Technical and Vocational Education Programs with Developing Countries (Racine, WI, April 26, 1983).
PUB TYPE Viewpoints (120) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Cooperation; *Developed Nations; *Developing Nations; *Economic Development; Educational Development; International Relations; Outcomes of Education; *School Role; *Vocational Education

ABSTRACT

Vocational-technical education must be viewed within the framework of total national goals of education and, combined with socioeconomic planning, considered as part of the total development scheme of a nation. One of its immediate purposes is performing a key support role in worldwide economic development and stability. Since economic and educational disadvantage overlap considerably, some nations integrate their literacy efforts with national development efforts such as vocational and technical training. During the 1980s, the United States will have to deal with four dimensions of change that will coincide directly with the changes in worldwide development--economic, technological, demographic, and governance. Vocational education plays a formidable role in any positive response to them, since education and work will have to be interwoven for all persons. The transition from school to work must be made easier, as the reverse transition--from work back to school--is accepted as commonplace. The pace of technological change is accelerating, and industrialized countries must learn to teach individuals how to learn and to obtain skills to do what they have not been specifically trained to do. A continual international dialogue and sharing of these ideas will foster worldwide development. (YLB)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED229639

THE SIGNIFICANCE OF VOCATIONAL-TECHNICAL EDUCATION IN WORLD-WIDE DEVELOPMENT

BY

DR. ROBERT M. WORTHINGTON
ASSISTANT SECRETARY
FOR
VOCATIONAL AND ADULT EDUCATION
U.S. DEPARTMENT OF EDUCATION

THE INTERNATIONAL CONFERENCE ON ESTABLISHING TECHNICAL AND VOCATIONAL EDUCATION PROGRAMS WITH DEVELOPING COUNTRIES

RACINE, WISCONSIN

APRIL 26, 1983

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

R Worthington

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

CE036017

THE SIGNIFICANCE OF VOCATIONAL-TECHNICAL EDUCATION IN WORLD-WIDE DEVELOPMENT

I AM PLEASED TO BE ABLE TO PARTICIPATE IN THIS INTERNATIONAL CONFERENCE ON TECHNICAL VOCATIONAL EDUCATION. I AM PARTICULARLY PLEASED TO SHARE THE PODIUM WITH MY OLD MINNESOTA CLASSMATE AND GOOD FRIEND, CHANCELLOR BOB SWANSON, OF THE UNIVERSITY OF WISCONSIN.

OVER THE YEARS, I HAVE HAD THE PRIVILEGE OF PARTICIPATING IN A NUMBER OF INTERNATIONAL CONFERENCES-- MOST RECENTLY IN HAMBURG, AT THE EUROPEAN CONFERENCE ON MOTIVATION FOR ADULT EDUCATION (IN PREPARATION FOR THE 1985 WORLD CONFERENCE ON ADULT EDUCATION); LAST YEAR AT THE INTERNATIONAL EXPERT MEETING ON POLICY, PLANNING, AND ADMINISTRATION OF TECHNICAL AND VOCATIONAL EDUCATION HELD IN PARIS; AND THE YEAR BEFORE, AT THE UNESCO INTERNATIONAL CONFERENCE ON EDUCATION IN GENEVA -- AND IN 1972, AS CHAIRMAN OF U.S. DELEGATION AT THE WORLD CONFERENCE ON ADULT EDUCATION AND LIFELONG LEARNING IN TOKYO--TO NAME A FEW. EACH WAS A PRODUCTIVE AND STIMULATING EXPERIENCE. WHAT I HAVE LEARNED FROM THESE EXCHANGES IS THAT ALL OF US, IN INDUSTRIALIZED AND DEVELOPING COUNTRIES ALIKE, SHARE MANY OF THE SAME PROBLEMS AND CHALLENGES.

I ALSO ATTENDED THE 1976 INTERNATIONAL CONFERENCE ON TECHNICAL AND VOCATIONAL EDUCATION IN DENVER, COLORADO. THAT CONFERENCE SOUGHT TO EXPOSE DEVELOPING COUNTRIES TO THE AMERICAN SYSTEM OF DELIVERING VOCATIONAL EDUCATION. WHILE, INDEED, THAT WAS ACCOMPLISHED, OF MUCH GREATER SIGNIFICANCE WERE THE EXCHANGES BETWEEN THE DEVELOPING COUNTRIES AND THE IDENTIFICATION OF COMMON PROBLEMS AND GOALS. THIS IS BORNE OUT BY THE CONFERENCE RECOMENDATIONS. THOSE RECOMMENDATIONS INCLUDED: ESTABLISHING AN INTERNATIONAL COMMUNICATIONS NETWORK FOR SHARING INFORMATION; ESTABLISHING A WORLD-WIDE VOLUNTARY FUND (USING PRIVATE SOURCE CONTRIBUTIONS) TO SUPPORT THE EXPANSION OF TECHNICAL

AND VOCATIONAL EDUCATION; AND ESTABLISHING A CENTER IN THE UNITED STATES TO PROVIDE ASSISTANCE TO INTERESTED COUNTRIES IN THE AREAS OF TEACHER TRAINING, CURRICULUM DEVELOPMENT, POLICY FORMATION, AND PLANNING. WHILE ATTEMPTS HAVE BEEN MADE TO RESPOND TO THESE RECOMMENDATIONS, SIGNIFICANT PROGRESS CANNOT BE REPORTED. ONE OF THE 1976 RECOMMENDATIONS, WHICH I SUPPORT, IS TO HOLD FUTURE INTERNATIONAL CONFERENCES. SUCH CONFERENCES PROVIDE AN EXCELLENT FORUM FOR THE EXHCANGE OF VIEWS, EXPERIENCES, AND PRACTICES.

MY TOPIC FOR DISCUSSION THIS EVENING -- THE SIGNIFICANCE OF VOCATIONAL-TECHNICAL EDUCATION IN WORLDWIDE DEVELOPMENT -- IS A FAR-REACHING ONE. TECHNICAL VOCATIONAL EDUCATION CANNOT BE CONSIDERED IN ISOLATION, EITHER PHILOSOPHICALLY OR PRACTICALLY. TECHNICAL AND VOCATIONAL EDUCATION MAKE A MAJOR IMPACT ON, AND FORM AN IMPORTANT LINK BETWEEN, EDUCATIONAL DEVELOPMENT AND SOCIAL AND ECONOMIC DEVELOPMENT. VOCATIONAL EDUCATION MUST BE VIEWED WITHIN THE FRAMEWORK OF THE TOTAL NATIONAL GOALS OF EDUCATION, AND COMBINED WITH SOCI-ECONOMIC PLANNING, MUST BE CONSIDERED AS PART OF THE TOTAL DEVELOPMENT SCHEME OF A PARTICULAR NATION. I AGREE WITH THE INTERNATIONAL EXPERTS WHO IN PARIS LAST SUMMER SAID "TECHNICAL AND VOCATIONAL EDUCATION MUST BE SEEN AS AN INSTRUMENT OF NATIONAL DEVELOPMENT AND AS AN AID TO THE PERSONAL DEVELOPMENT OF THE INDIVIDUAL AS WELL."

AT UNESCO HEADQUARTERS WE DEBATED FOR A WEEK ON THE TOPICS OF ECONOMIC DEVELOPMENT AND NATIONAL POLICIES FOR VOCATIONAL AND TECHNICAL EDUCATION. LET ME SHARE WITH YOU THE CONCENSUS OF THIS DIVERSE GROUP. WE AGREED THAT:

- GENERAL EDUCATION ITSELF MUST INCLUDE AWARENESS OF THE ROLE OF SCIENCE, TECHNOLOGY AND ORGANIZATION. PREJJDICE AGAINST SKILL DEVELOPMENT AND MANUAL WORK SHOULD BE ABOLISHED.
- THE QUALITY OF TECHNICAL AND VOCATIONAL EDUCATION GIVEN MUST BE HIGH AND SHOULD BE MONITORED TO REMAIN SO.
- THE SOCIAL RELEVANCE OF CURRICULA MUST BE ENSURED. EMPLOYEES/ SOCIAL SCIENTISTS/EDUCATORS SHOULD TOGETHER INFLUENCE CURRICULA.
- ADULTS, AS WELL AS STUDENTS OF SCHOOL AGE, MUST BE PART OF THE TARGET GROUP FOR TECHNICAL AND VOCATIONAL EDUCATION.
- FOLLOWING THE CONCEPT OF LIFELONG EDUCATION, TECHNICAL AND VOCATIONAL EDUCATION MUST PROVIDE CONTINUING EDUCATION FOR ALL CITIZENS.
- THE ROLE OF PRACTICAL TRAINING IN ROUNDING OFF TECHNICAL AND VOCATIONAL EDUCATION SHOULD BE EMPHASIZED AND APPRENTICESHIP SCHEMES SHOULD BE READILY AVAILABLE TO ALL.
- THE STATUS OF TEACHERS IN THE SYSTEM SHOULD BE AT A HIGH LEVEL.
- TECHNICAL TEACHERS SHOULD HAVE EASY ACCESS TO MEANS FOR UPGRADING THEIR KNOWLEDGE AND SKILLS.
- THAT A WORLD CONFERENCE ON TECHNICAL AND VOCATIONAL EDUCATION BE CONVENED BY UNESCO.

VOCATIONAL EDUCATION IS NOT A PANACEA FOR THE ECONOMIC PROBLEMS OF THE WORLD. HOWEVER, I AM CONVINCED THAT VOCATIONAL EDUCATION CAN AND DOES SERVE MULTIPLE PURPOSES -- AND ONE OF ITS IMMEDIATE PURPOSES IS IN PERFORMING A KEY SUPPORT ROLE IN WORLDWIDE ECONOMIC DEVELOPMENT AND STABILITY.

IN THE UNITED STATES THE GOAL OF VOCATIONAL EDUCATION IS TO DEVELOP HUMAN RESOURCES. THE HUMAN RESOURCE IS THE PREEMINENT ECONOMIC RESOURCE. THE HUMAN RESOURCE SERVES AS THE CATALYTIC AGENT TO COMBINE TANGIBLE ELEMENTS AND INTANGIBLE IDEAS TO PRODUCE GOODS AND SERVICES.

THE INVESTMENT IN HUMAN RESOURCES PROVIDES THE FOUNDATION FOR EDUCATION AND TRAINING EFFORTS IN MANY COUNTRIES. SOME COUNTRIES QUITE EXPLICITLY (BY LAW) USE THEIR NATIONAL MANPOWER TRAINING SYSTEM TO MEET NATIONAL ECONOMIC OR LABOR MARKET NEEDS. FOR EXAMPLE, THEY MAY STIMULATE THE PROVISION OF ADDITIONAL TRAINED MANPOWER IN OCCUPATIONS WHERE SHORTAGES EITHER EXIST OR ARE PREDICTED. OTHER COUNTRIES HAVE SOUGHT DELIBERATELY TO PROMOTE ECONOMIC EQUITY THROUGH EDUCATION AND TRAINING PROGRAMS. ECONOMIC AND EDUCATIONAL DISADVANTAGE, OF COURSE, OVERLAP CONSIDERABLY.

A FEW WEEKS AGO I READ A UNESCO PAPER HEADLINED "EIGHT HUNDRED MILLION ILLITERATES; EIGHT HUNDRED MILLION STARVING IN THE WORLD." A STARTLING STATISTIC! -- BUT AS AN EDITORIAL IN THAT PAPER POINTS OUT "IT IS NO COINCIDENCE THAT THE FIGURES ARE THE SAME: THE MAP OF ILLITERACY IS CO-EXTENSIVE WITH THAT OF UNDERDEVELOPMENT." ILLITERACY IS A SEVERE DETERRENT TO DEVELOPMENT; AND, AS EXPECTED, IS MORE PREVALENT IN THE LESS DEVELOPED COUNTRIES OF THE WORLD. BUT BY NO MEANS IS THE PROBLEM OF ILLITERACY CONFINED WITHIN THE BORDERS OF DEVELOPING NATIONS.

TODAY IN THE UNITED STATES, WE NO LONGER DEFINE LITERACY ONLY ON THE BASIS OF A FIXED INVENTORY OF SKILLS -- READING AND WRITING. WE CONSIDER THE NEEDS AND DEMANDS PLACED ON INDIVIDUALS IN THE SOCIETY. WE DEFINE LITERACY BY STRESSING ITS FUNCTIONAL ASPECTS -- POSSESSION OF THE ESSENTIAL KNOWLEDGE AND SKILLS TO ENABLE AN INDIVIDUAL TO FUNCTION EFFECTIVELY IN HIS OR HER ENVIRONMENT -- THE HOME, THE COMMUNITY, THE WORKPLACE.

STATISTICALLY, THERE IS ONLY A ONE PERCENT ILLITERACY RATE IN THE UNITED STATES, USING THE OLDER DEFINITION THAT DEALS WITH A BASIC ABILITY TO READ AND WRITE. HOWEVER, BY INSERTING THE COMPONENT OF FUNCTIONALITY, WE CAN MAKE THE FOLLOWING ESTIMATES: 26 MILLION AMERICANS ARE FUNCTIONALLY ILLITERATE TODAY AND AN ADDITIONAL 46 MILLION DO NOT FUNCTION PROFICIENTLY. THAT MAKES A TOTAL OF 72 MILLION IN THE UNITED STATES WHO FUNCTION AT A MARGINAL LEVEL OR BELOW.

FUNCTIONAL ILLITERACY KNOWS NO BOUNDARIES. MANY COUNTRIES ARE NOW IN THE MIDST OF MASS LITERACY PROGRAMS. AT THE U.S. DEPARTMENT OF EDUCATION, WE ARE DEVELOPING A SECRETARY'S INIATIVE FOR ADULT LITERACY AND, WITH THE SUPPORT OF CONCERNED CITIZENS WHO WILL GIVE THEIR TIME AND EFFORT TO THIS PROGRAM, WE HOPE TO ARREST ADULT ILLITERACY IN THE UNITED STATES. SECRETARY BELL WILL MAKE A MAJOR ANNOUNCEMENT ABOUT THIS INITIATIVE IN THE NEAR FUTURE. SOME OF THE ACTIVITIES OF THIS IMPORTANT EFFORT INCLUDE:

--LAUNCHING A NATIONAL AWARENESS CAMPAIGN.

--ESTABLISHING A NATIONAL ADULT LITERACY PROJECT.

--ENCOURAGING THE GOVERNORS TO ESTABLISH STATE AND/ LOCAL ADULT LITERACY COUNCILS.

--ESTABLISHING A TASK FORCE ON ADULT LITERACY.

--ENLISTING THE INVOLVEMENT OF COLLEGE STUDENTS AND FACULTY VOLUNTEERS IN THE CAMPAIGN FOR ADULT LITERACY.

--JOINING WITH THE HANDICAPPED COMMUNITY IN A CAMPAIGN FOR LITERACY FOR THE OUT-OF-SCHOOL, OUT-OF-WORK HANDICAPPED ADOLESCENT.

--ESTABLISHING A SECRETARIAL RECOGNITION PROGRAM TO RECOGNIZE EXEMPLARY ADULT LITERACY PROGRAMS AND VOLUNTEERS.

OTHERS NATIONS ARE INTEGRATING THEIR LITERACY EFFORTS WITH NATIONAL DEVELOPMENT EFFORTS SUCH AS VOCATIONAL AND TECHNICAL TRAINING. EXCHANGING IDEAS AND WORKING TOWARD THE RESOLUTION OF SUCH COMMON PROBLEMS WILL HAVE A POSITIVE EFFECT ON WORLD DEVELOPMENT, THE WORLD ECONOMY, AND THE WELFARE OF OUR WORLD POPULATION.

IF I COULD NOW TURN TO THE U.S. EXPERIENCE -- VOCATIONAL EDUCATION IN THE U.S. IS AN ENTERPRISE INCLUDING MORE THAN 19,000 INSTITUTIONS OFFERING A GREAT VARIETY OF VOCATIONAL EDUCATION PROGRAMS BELOW THE BACHELOR'S DEGREE TO MORE THAN 20 MILLION YOUTH AND ADULTS, AT A TOTAL ANNUAL INVESTMENT OF APPROXIMATELY $8 BILLION - LOCAL, STATE, AND FEDERAL FUNDS COMBINED.

THESE VOCATIONAL EDUCATION PROGRAMS RANGE FROM INTRODUCTORY VOCATIONAL GUIDANCE AND PRE-VOCATIONAL INDUSTRIAL ARTS AT THE MIDDLE-SCHOOL LEVEL TO HIGHLY SOPHISTICATED TECHNICIAN TRAINING IN TECHNICAL INSTITUTES AND COMMUNITY COLLEGES. MOST OF THESE PROGRAMS INVOLVE CLOSE COLLABORATION WITH BUSINESS, INDUSTRY, AND LABOR. MANY DIFFERENT TYPES OF COOPERATIVE VOCATIONAL EDUCATION, APPRENTICESHIP, AND "QUICK START" CUSTOMIZED TRAINING FOR NEW INDUSTRIES CONTRIBUTE TO BOTH LOCAL AND STATE ECONOMIC DEVELOPMENT. NOT THE LEAST OF OUR ENDEAVORS IS A SIMILARLY BROAD SPECTRUM OF SPECIAL PROGRAMS FOR THE DISADVANTAGED AND THE HANDICAPPED, AS WELL AS FOR THE LIMITED ENGLISH PROFICIENT, DISPLACED HOMEMAKERS, AND AMERICAN INDIANS, AMONG OTHERS.

I EMPHASIZE THE BREADTH OF PURPOSES AND OFFERINGS IN VOCATIONAL EDUCATION BECAUSE I BELIEVE THAT THE CHANGES THAT WE, AS A NATION AND AS A CONTRIBUTOR TO WORLDWIDE DEVELOPMENT, WILL CONFRONT DURING THE 80'S ARE OF SIMILAR BREADTH. THE "DIMENSIONS OF CHANGE" FOR THE CURRENT DECADE CAN BE CATEGORIZED AS: ECONOMIC, TECHNOLOGICAL, DEMOGRAPHIC, AND GOVERNANCE. THESE COMING CHANGES COINCIDE DIRECTLY WITH THE CHANGES IN WORLDWIDE DEVELOPMENT -- AS I EVALUATE THE SITUATION.

UNDER THE CATEGORY OF "ECONOMIC CHANGE", WE HAVE BEEN ATTACKING INFLATION, HIGH INTEREST RATES, UNEMPLOYMENT, LAGGING PRODUCTIVITY, A DETERIORATING COMPETITIVE POSITION IN SOME INDUSTRIES, AGING AND INEFFICIENT PLANTS, AND A SHORT SUPPLY OF INVESTMENT CAPITAL. PRESIDENT REGAN'S PROGRAM IS WORKING. THREE YEARS AGO THE ANNUAL INFLATION RATE WAS 15.5 PER CENT AND INTEREST RATES HAD RISEN TO 23 + PERCENT. THESE ECONOMIC PROBLEMS DEMAND A NATIONAL EFFORT OF RE- INDUSTRIALIZATION THAT IS A REVITALIZATION OF THE U.S. PRODUCTIVE CAPACITY. TECHNICAL AND VOCATIONAL EDUCATION MUST PLAY VITAL ROLES IN THIS UNDERTAKING -- SKILLED WORKFORCE DEVELOPMENT IS ONE MEANS. VOCATIONAL EDUCATION CONTRIBUTES TO ECONOMIC REVITALIZATION BY PREPARING A CONSISTENT FLOW OF SKILLED, ENTRY-LEVEL WORKERS FROM ITS REGULAR SECONDARY AND POST-SECONDARY PROGRAMS. OTHER PROGRAMS FOCUS ON ADULT TRAINING AND RETRAINING AND OFFER FLEXIBLE SOLUTIONS TO THE DIFFICULT PROBLEMS CHARACTERISTIC OF AN ECONOMY IN TRANSITION. THESE PROGRAMS MAY RETRAIN UNEMPLOYED WORKERS FOR NEW OCCUPATIONS, OR THEY MAY OFFER CUSTOMIZED TRAINING FOR BUSINESS AND INDUSTRY NEW TO AN AREA. THIS LATTER PROGRAM IS PARTICULARLY ADVANTAGEOUS FOR ECONOMIC REVITALIZATION SINCE NEW, SMALL FIRMS SUPPLY THE MAJORITY OF JOB OPENINGS IN MOST INDUSTRIES.

BECAUSE OF THIS NATIONAL NEED FOR ECONOMIC REVITALIZATION, WE ARE EXPLORING AND CREATING NEW AND PRODUCTIVE TIES BETWEEN EDUCATION AND THE PRIVATE SECTOR TO IMPROVE SKILLED WORKFORCE DEVELOPMENT. WE ARE ALSO PROMOTING AND EXPANDING ENTREPRENEURSHIP EDUCATION AND TRAINING FOR JOB CREATION AND SELF EMPLOYMENT AS AN INTEGRAL PART OF VOCATIONAL AND ADULT EDUCATION.

THE NEXT DIMENSION OF CHANGE MAY BE TERMED "TECHNOLOGICAL". UNDER THAT DIMENSION WE HAVE RAPID CHANGE IN MANY INDUSTRIES (PLUS THE INTRODUCTION OF SOME COMPLETELY NEW TECHNOLOGIES); FURTHER ACCELERATION OF THIS RATE OF CHANGE BECAUSE OF EXPECTED NEW INVESTMENT IN INDUSTRIAL RESEARCH AND DEVELOPMENT; THE MASSIVE CHANGES IN THE OFFING BECAUSE OF ADVANCES IN INFORMATION TECHNOLOGY; INCREASED USE OF AUTOMATED EQUIPMENT; THE RESULTING OBSOLESCENCE OF SKILLS IN MANY OCCUPATIONS; AND THE NEED FOR TRAINING AND RETRAINING PROGRAMS FOR EVER-INCREASING LEVELS OF SKILLS.

THE ACCUMULATED RESULTS OF APPLIED SCIENCE AND TECHNOLOGY IN ALL FACETS OF PRODUCTION HAVE REVOLUTIONIZED THE WORLD OF WORK -- AND RADICALLY CHANGED THE SOCIETY IN GENERAL. A MORE DEMANDING EDUCATIONAL PREPARATION IS REQUIRED. IN GENERAL, OCCUPATIONAL COMPETENCE DEMANDS A MORE COMPREHENSIVE GROUNDING IN MATHEMATICS AND THE SCIENCES. SPECIALIZED SKILLS MUST BE LEARNED. SUCH SKILLS MUST BE REFINED AS TECHNOLOGICAL ADVANCEMENTS OCCUR. AS THE ERA OF HIGH TECHNOLOGY ADVANCES, TECHNICAL EDUCATORS AND TRAINED TECHNICIANS MUST CONFRONT THIS URGENT CHALLENGE. TECHNOLOGY WILL BECOME MORE COMPLICATED RATHER THAN LESS.

UNDER THE HEADING OF "DEMOGRAPHIC CHANGE", WE HAVE THE OVERALL AGING OF THE U.S. WORKFORCE; A PROJECTED DECREASE IN THE PERCENTAGE OF THE WORKFORCE COMPOSED OF YOUTH (BUT AN INCREASE WITHIN THAT AGE BRACKET OF MINORITIES); A MIGRATION OF SKILLED WORKERS FROM THE "FROST BELT" TO THE "SUN BELT"; A GRADUAL SKEWING OF THE WORKFORCE TOWARD THE SERVICE SECTOR AND "WHITE COLLAR" OCCUPATIONS AND AWAY FROM THE

MANUFACTURING SECTOR AND "BLUE COLLAR" OCCUPATIONS; A TENDENCY FOR ADULTS TO REMAIN IN THE WORKFORCE LONGER AND TO OPT FOR LATER RETIREMENT; A CONTINUED INFLUX OF WOMEN INTO THE WORKFORCE; AN INCREASE IN THE NUMBER OF SKILLED ADULTS WHOSE JOBS ARE BEING LOST THROUGH STRUCTURAL ADJUSTMENTS IN THE NATIONAL AND INTERNATIONAL MARKETS; AN INCREASINGLY MOBILE WORKFORCE; AND A CONTINUING CONCENTRATION OF POOR, UNSKILLED OR LOW-SKILLED WORKERS IN DENSELY POPULATED URBAN CENTERS.

ANOTHER "DIMENSION OF CHANGE" IS THE PHILOSPHY OF GOVERNANCE: WE ARE IN THE PROCESS OF TRANSFERRING NOT ONLY OPERATIONAL AUTHORITY TO THE STATES AND LOCALITIES, BUT ALSO FINAL RESPONSIBILITY FOR THE DIRECTION AND ACCOMPLISHMENTS OF PROGRAMS. PRESIDENT REAGAN BELIEVES THAT LOCAL EFFORTS ARE THE MOST EFFECTIVE ONES. THE FEDERAL GOVERNMENT WILL BECOME A JUNIOR PARTNER AND FACILITATOR IN THE THESE PROGRAMS, PROVIDING LEADERSHIP AND DEVELOPMENT RESOURCES AS REQUIRED. IT WILL NOT BE A MAJOR SOURCE OF FUNDING FOR STATE AND LOCALLY OPERATED PROGRAMS.

THE FOUR "DIMENSIONS OF CHANGE" WITH WHICH THE U.S. MUST DEAL IN THE 1980'S -- ECONOMIC, TECHNOLOGICAL, DEMOGRAPHIC, AND GOVERNANCE -- ARE NOT UNLIKE THOSE FACED BY MANY OTHER NATIONS OF THE WORLD.

THE QUESTIONS THAT MUST NOW BE CONSIDERED ARE -- HOW WILL WE DEAL WITH THESE DIMENSIONS OF CHANGE? HOW WILL THESE DEVELOPMENTS AFFECT

THE INTERACTION OF EDUCATION AND WORK? VOCATIONAL-TECHNICAL EDUCATION IS NOT THE ONLY RESPONSE TO THESE DIMENSIONS OF CHANGE. HOWEVER, I SUBMIT THAT VOCATIONAL-TECHNICAL EDUCATION PLAYS A FORMIDABLE ROLE AS A CONTRIBUTOR IN ANY POSITIVE RESPONSE TO THEM. IN MY OPINION, HERE ARE SOME OF THE HIGHLY PROBABLE DEVELOPMENTS IN THE UNITED STATES DURING THE 80'S --

1. ELEMENTARY AND MIDDLE SCHOOLS WILL GREATLY STRENGTHEN THEIR EMPHASIS ON "CAREER DEVELOPMENT EDUCATION" TO RELATE EARLY EDUCATIONAL STUDIES MUCH MORE CLOSELY TO THE WORLD OF WORK.

2. AT THE SAME TIME, SCHOOLS AND COLLEGES WILL RE-EMPHASIZE THE IMPORTANCE OF MATHEMATICS AND THE SCIENCES, MUCH AS PREVIOUSLY HAPPENDED WHEN SPACE EXPLORATION BEGAN SOME TWENTY-FIVE YEARS AGO. HIGH-TECHNOLOGY EMPLOYERS MAY WELL RECRUIT AND SUBSIDIZE PROMISING STUDENTS OF THIS TYPE. AGAIN, THESE STUDIES WILL BE PROMOTED AND STRUCTURED ACCORDING TO THE NEEDS OF THE WORKPLACE: AND PERHAPS LESS SO ACCORDING TO THE SEQUENCES OF TRADITIONAL COURSES.

3. IN RESPONSE TO GREATER SKILL REQUIREMENTS, THERE WILL BE MORE EMPHASIS PLACED ON TECHNICAL EDUCATION IN POSTSECONDARY INSTITUTIONS AND COMMUNITY COLLEGES, WITH NEW FORMS OF SUPPORT FROM INTERESTED BUSINESSES AND INDUSTRIES -- ESPECIALLY IN THE JOINT USE OF EXPENSIVE EQUIPMENT.

4. WHILE PRIVATE EMPLOYERS WILL INCREASE THEIR OWN TRAINING EFFORTS -- PARTICULARLY IN NEW WAYS TO RETRAIN OLDER OR RETIRED WORKERS -- THEY WILL ALSO INCREASINGLY SEE THE NEED FOR STRONG PUBLICLY SUPPORTED VOCATIONAL EDUCATION AS AN INDISPENSABLE SOURCE OF NEW ENTRY-LEVEL WORKERS; AND THEY WILL SIMILARLY SEE THE NEED FOR SUPPORT OF THE COLLEGES OF SCIENCE AND ENGINEERING FOR THE TRAINING OF HIGHLY SKILLED PROFESSIONALS. RATHER THAN HIRING THE BEST PROFESSIONAL AWAY FROM THESE INSTITUTIONS, PRIVATE EMPLOYERS AND SCHOOLS AND COLLEGES WILL DEVELOP NEW TEACHER- WORKER EXCHANGE PROGRAMS FOR THEIR MUTUAL BENEFIT. THE WHOLE CONCEPT OF TEACHING IN VOCATIONAL AND TECHNICAL EDUCATION WILL NEED TO BE BROADENED AND EXPANDED. THE USE OF COMMUNICATIONS TECHNOLOGY TO RURAL, ISOLATED YOUTHS AND ADULTS MUST BE EXPEDITED.

5. VOCATIONAL AND TECHNICAL EDUCATION INSTITUTIONS AT ALL LEVELS WILL BECOME MUCH MORE CLOSELY TIED TO BUSINESS AND INDUSTRY. TRADITIONAL APPRENTICESHIP WILL SEE A REBIRTH AND COOPERATIVE EDUCATION PROGRAMS WILL FLOURISH, BUT FISCAL CONSTRAINTS WILL NECESSITATE NEW ARRANGEMENTS AND ORGANIZATIONAL STRUCTURES. FOR EXAMPLE: VOCATIONAL SCHOOLS, STAFFED JOINTLY BY PUBLIC AND PRIVATELY EMPLOYED TEACHERS, WILL BE ESTABLISHED AT BUSINESS-INDUSTRY SITES; AND -- BUILDING ON THE EXISTING MODELS OF PRIVATE INDUSTRY COUNCILS, AND INDUSTRY-EDUCATION-LABOR COLLABORATIVES -- NEW KINDS OF PUBLIC CORPORATIONS WILL BE CREATED TO ADMINISTER EDUCATION TRAINING WITH A COMBINATION OF PUBLIC AND PRIVATE FUNDS.

6. THE IMPORTANCE OF INCREASED COLLABORATION BETWEEN VOCATIONAL/ TECHNICAL EDUCATION AND ORGANIZED LABOR WILL BE RECOGNIZED. AS IS ALREADY OCCURING, LABOR UNIONS WILL FOREGO INFLATIONARY WAGE INCREASES AND, INCREASINGLY, WILL INSTEAD NEGOTIATE WITH MANAGEMENT TO SET UP "TRAINING TRUST FUNDS." PERIODICALLY RETURNING TO SCHOOL WILL BECOME VIEWED AS JUST ANOTHER ASPECT OF WORK, AND "LIFELONG LEARNING" WILL INDEED BECOME A REALITY OF LIFE.

7. VOCATIONAL EDUCATION IN RURAL AREAS MUST BE GIVEN EQUAL ATTENTION WITH VOCATIONAL EDUCATION IN URBANIZED ECONOMICALLY DEVELOPED AREAS. THE HIGH PRODUCTIVITY OF AMERICAN AGRICULTURE IS DUE IN LARGE PART TO THE MORE THAN 800,000 YOUTH AND ADULTS ENROLLED IN VOCATIONAL AGRICULTURE. THESE PROGRAMS ARE BASED ON A DAILY RELATIONSHIP BETWEEN IN-SCHOOL EDUCATION AND WORK IN AGRICULTURE.

8. FINALLY, ECONOMIC NEEDS MAY WELL ACCOMPLISH WHAT SOCIAL PRESSURES HAVE ONLY BEGUN -- THE ACHIEVEMENT OF EQUAL EDUCATIONAL OPPORTUNITY FOR SPECIAL NEED POPULATIONS. IN A GROWING ECONOMY FACED WITH AN AGING, SHRINKING WORKFORCE, ALL POTENTIAL SOURCES OF SKILLED WORKERS MUST BE TAPPED. NEW KINDS OF PROGRAMS FOR THE DISADVANTAGED, THE HANDICAPPED, AND THE LIMITED ENGLISH PROFICIENT WILL BE CREATED WITH STRONG PRIVATE-SECTOR BACKING TO RECRUIT AND PREPARE SUCH STUDENTS.

IF ONE STANDS BACK AND VIEWS THESE CHANGES AS A GROUP, ONE COMMON THEME EMERGES: A POWERFUL INTERWEAVING OF EDUCATION AND WORK INTO A SINGLE FABRIC OF LIFE FOR ALL PERSONS.

I BELIEVE THE TIME HAS COME TO MAKE SUBSTANTIVE CHANGES IN THE WAY EDUCATIONAL PROGRAMS ARE DESIGNED, ORGANIZED, AND OFFERED. THERE NO LONGER NEED BE THE DIFFICULT TRANSITION FROM SCHOOL TO WORK. THE REVERSE TRANSITION, FROM WORK BACK TO SCHOOL, WILL ALSO BE ACCEPTED AS COMMONPLACE.

THESE IDEAS ARE CERTAINLY NOT REVOLUNTIONARY IN ANY SENSE OF THE WORD. BUT IN THE UNITED STATES WE ARE NOW PRESENTED WITH A RARE OPPORTUNITY TO MAKE SOME HEADWAY IN THIS MATTER. PRIVATE SECTOR INTEREST AND COMMITMENT ARE GROWING; RESPONSIBILITY FOR EDUCATION IS BEING RETURNED TO THE INDIVIDUAL STATES; AND MAJOR FEDERAL LEGISLATION IS UNDER INTENSIVE REVIEW AND REVISION BY THE CONGRESS AND THE ADMINISTRATION.

THE FUTURE OF OUR COUNTRY -- THE FUTURE OF ANY COUNTRY -- IS LINKED IRREVERSIBLY TO THE REST OF THE WORLD. THERE IS AN EVER-INCREASING INTER-DEPENDENCY, WHETHER IN THE CONTEXT OF ENVIRONMENT, RAW MATERIALS, ENERGY SUPPLY, FOOD SUPPLY, FINISHED PRODUCTS, OR GENERAL KNOWLEDGE AND KNOW-HOW. TECHNOLOGICAL ADVANCEMENTS IN COMMUNICATION HAVE RESULTED IN HIGHER EXPECTATIONS OF THE WORLD POPULATIONS. THE PACE OF TECHNOLOGICAL CHANGE IS ACCELERATING AND WILL CONTINUE TO DO SO. CHANGE IS A CONSTANT. THIS CONSTANT AND ACCELERATING PACE OF CHANGE WILL PLACE A PREMIMUM ON LEARNING HOW TO LEARN AND OBTAINING SKILLS TO ENABLE INDIVIDUALS TO DO WHAT THEY HAVE NOT BEEN SPECIFICALLY TRAINED TO DO. SUCH BASIC AND VOCATIONAL SKILLS ARE IMPERATIVE FOR EMPLOYMENT -- IMPERATIVE FOR COPING WITH LIFE SITUATIONS -- IN THE FUTURE AND TODAY!

TYPICALLY WE FOCUS ON PREPARATION FOR JOBS AND CAREERS THAT ALREADY EXIST. RATHER WE MUST FOCUS ON THE DEVELOPMENT OF KNOWLEDGE, SKILLS, AND ATTITUDES REQUIRED FOR LEARNING THROUGHOUT THE LIFETIME. TECHNOLOGICAL ADVANCEMENTS FORCE A REASSESSMENT OF TRADITIONAL, INSTUTIONALIZED APPROACHES TO EDUCATION AND TRAINING.

I AM CERTAINLY NOT IN ANY POSITION TO ATTEMPT TO COMPARE EDUCATION FROM ONE COUNTRY TO ANOTHER. BUT IT SEEMS THAT MANY OF THE MORE INDUSTRIALIZED COUNTRIES FACE PRESSURES IN THE EDUCATION-AND-WORK ARENA THAT ARE SIMILAR TO OURS IN THE UNITED STATES. DEVELOPING COUNTRIES FIND THEMSELVES IN FAR DIFFERENT SITUATIONS, AND HAVE AN EVEN GREATER STAKE IN THE PROCESS. DEVELOPING COUNTRIES CAN HARDLY AFFORD THE LUXURY OF PURSUING THE SAME TRIAL-AND-ERROR PATHWAYS WE HAVE PURSUED.

CONSEQUENTLY, I BELIEVE THAT THERE IS MUCH THAT WE, THE INTERNATIONAL COMMUNITY, CAN LEARN FROM EACH OTHER. A CONTINUING DIALOGUE AND SHARING OF IDEAS WILL FOSTER WORLDWIDE DEVELOPMENT AND A BETTER LIFE FOR THE WORLD'S POPULATION. WE IN THE U.S. DEPARTMENT OF EDUCATION PLEDGE OUR COOPERATION IN THESE ENDEAVORS.

THANK YOU.